## In the Claims:

- 1. (Currently Amended) A method for detecting malicious code in a stream of data traffic input to a gateway of a data network, the method comprising the steps of:
  - (a) monitoring by the gateway for at least one suspicious portion of data in a portion of the stream of data traffic that is expected to lack executable code;
  - (b) upon detecting said at least one suspicious portion of data, attempting to disassemble said at least one suspicious portion of data thereby attempting to produce disassembled code;

wherein for each instruction in said disassembled code,

- (c) assigning respectively a threat weight for each said instruction; and
- (d) accumulating said threat weight to produce an accumulated threat weight.
- 2. (Original) The method, according to claim 1, wherein said at least one suspicious portion of data contains at least one illegal character in a protocol of the stream of data traffic.
- 3. (Original) The method, according to claim 1, wherein said monitoring is performed by skipping acceptable data in the stream of data traffic, said acceptable data being consistent with a protocol used by the data stream.
- 4. (Original) The method, according to claim 3, wherein said acceptable data includes acceptable executable code.

- 5. (Original) The method, according to claim 1, wherein upon reaching a branch in said disassembled code, further accumulating said threat weight respectively for each branch option in said disassembled code, thereby producing said accumulated threat weight for each said branch option.
- 6. (Original) The method, according to claim 1, further comprising the step of
  - (e) upon said accumulated threat weight exceeding a previously defined threshold level, performing an action selected from the group of
    - (i) generating an alert, and
    - (ii) blocking traffic from the source of the suspicious data.
- 7. (Original) The method, according to claim 6, wherein said blocking is solely in the stream of data traffic.
- 8. (Original) The method, according to claim 1, wherein said attempting to disassemble is initiated at a plurality of initial instructions, each of said initial instructions with a different offset within said at least one suspicious portion of data, and said threat weight is accumulated respectively for each said offset.
- 9. (Original) The method, according to claim 1, wherein said attempting to disassemble is initiated at an initial instruction of an address of previously known offset relative to a vulnerable return address.

- 10. (Original) The method, according to claim 1, wherein the stream of data traffic includes an encoded data portion, further comprising the step of, prior to said attempting to disassemble:
  - (e) decoding said encoded data portion.
- 11. (Currently Amended) A method for detecting malicious code in a stream of data traffic input to a gateway of a data network the stream of data traffic including data packets, the method comprising the steps of:
  - (a) monitoring by the gateway for at least one suspicious portion of data in
     a portion of the stream of data traffic that is expected to lack executable code;
  - upon detecting said at least one suspicious portion of data, attempting to disassemble said suspicious data thereby attempting to produce disassembled code;

wherein for each instruction in said disassembled code,

- (c) assigning respectively a threat weight for each said instruction; and
- (d) accumulating said threat weight to produce an accumulated threat weight;

wherein said threat weight for each said instruction is selectively either:

- (i) increased for a legal instruction, and
- (ii) decreased for an illegal instruction.
- 12. (Original) The method, according to claim 11, wherein said attempting to disassemble is initiated at a plurality of initial instructions, each of said initial

instructions with a different offset within said at least one suspicious portion of data, and said threat weight is accumulated respectively for each said offset.

- 13. (Original) The method, according to claim 11, wherein said attempting to disassemble is initiated at an initial instruction of an address of previously known offset relative to a vulnerable return address.
- 14. (Original) The method, according to claim 11, further comprising the steps of:
  - (e) receiving the data packets input from a wide area network interface of the gateway, thereby building the packets into a virtual stream inside the gateway; and
  - (f) upon said accumulated threat weight exceeding a previously defined threshold level, performing an action selected from the group of
    - (i) generating an alert, and
    - (ii) blocking traffic from the source of the malicious code.

## 15. (Canceled)

16. (Currently Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for detecting malicious code in a stream of data traffic in a data network, the method comprising the steps of:

- (a) monitoring by the gateway for at least one suspicious portion of data in
   a portion of the stream of data traffic that is expected to lack executable code;
- upon detecting said at least one suspicious portion of data, attempting to disassemble said suspicious data thereby attempting to produce disassembled code;

wherein for each instruction in said disassembled code,

- (c) assigning respectively a threat weight for each said instruction; and
- (d) accumulating said threat weight to produce an accumulated threat weight;

wherein said threat weight for each said instruction is selectively either:

- (i) increased for a legal instruction, and
- (ii) decreased for an illegal instruction.
- 17. (Currently Amended) A computer system comprising,
- (a) a processor;
- (b) a program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for detecting malicious code in a stream of data traffic in a data network, the method including the steps of:
  - (A) monitoring by the system for at least one suspicious portion of data in a portion of the stream of data traffic that is expected to lack executable code;

(B) upon detecting said at least one suspicious portion of data, attempting to disassemble said suspicious data thereby attempting to produce disassembled code;

wherein for each instruction in said disassembled code,

- (C) assigning respectively a threat weight for each said instruction; and
- (D) accumulating said threat weight to produce an accumulated threat weight;

wherein said threat weight for each said instruction is selectively either:

- (i) increased for a legal instruction, and
- (ii) decreased for an illegal instruction.
- 18. (Original) The method, according to claim 17, wherein said attempting to disassemble is initiated at a plurality of initial instructions, each of said initial instructions with a different offset within said at least one suspicious portion of data, and said threat weight is accumulated respectively for each said offset.
- 19. (Original) The method, according to claim 17, wherein said attempting to disassemble is initiated at an initial instruction of an address of previously known offset relative to a vulnerable return address.
- 20. (Currently Amended) An apparatus for detecting malicious code in a stream of data traffic input to a gateway to data network, the apparatus comprising:

- (a) a filter apparatus which filters a portion of the stream of data traffic

  that is expected to lack executable code and thereby detects at least one suspicious portion of data in the stream of data traffic;
- (b) a disassembler attempting to convert binary operation codes into assembly instructions of said at least one suspicious portion of data, thereby attempting to produce disassembled code; and
- (c) an assembly instructions analyzer which for each of said instructions assigns respectively a threat weight, accumulates respectively said threat weight thereby produces an accumulated threat weight.
- 21. (Original) The apparatus, according to claim 20, wherein said attempting to convert is initiated at a plurality of initial instructions, each of said initial instructions with a different offset within said at least one suspicious portion of data, and said threat weight is accumulated respectively for each said offset.
  - 22. (Original) The apparatus, according to claim 20, further comprising:
  - (d) a vulnerable return address detector which detects an initial instruction for said attempting to convert.
- 23. (New) The method of claim 8, wherein said attempting to disassemble is initiated at every offset within said at least one suspicious portion of data.
- 24. (New) The method of claim 12, wherein said attempting to disassemble is initiated at every offset within said at least one suspicious portion of data.

- 25. (New) The method of claim 18, wherein said attempting to disassemble is initiated at every offset within said at least one suspicious portion of data.
- 26. (New) The method of claim 21, wherein said attempting to convert is initiated at every offset within said at least one suspicious portion of data.